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2nd August 2005

The European Patent Office
Erhardtstrasse 27
D-80298 Munich
Germany

Dear Sirs

Re: PCT Patent Application No. PCT/GB2005/050043
(filed 24th March 2005)
corresponding to
UK Patent Application No. 04 07163.5
(filed 30th March 2004)
Applicant: Middlesex Silver Co. Limited
(Assigned from COLE, Paul Gilbert)
Inventors: JOHNS, Peter Gamon and HARRISON, Clare Elizabeth
"Water Based Metal Treatment Composition"
Case: MDX,017-PCT

In response to the Written Opinion of the International Searching Authority we respectfully request that the above application should be submitted to **DETAILED** International Preliminary Examination.

We enclose the Demand for ALL countries originally designated including the necessary fee calculation sheet totalling Euro 1659 to be deducted from our deposit account number 28050111.

The International Preliminary Examination should be on the basis of the claims enclosed herewith.

In the amended claims, claim 1 has been amended to specify that the surfactant used to solubilise the treatment agent comprise a non-ionic relatively hydrophobic surfactant which may be an amide or an ethoxylated fatty acid monoglyceride. These compounds include cocamide DEA and glycereth - 2 cocoate which has similar properties. The composition further comprises an anionic surfactant and a zwitter ionic surfactant.

contn:-

The problem of producing satisfactory aqueous solutions or dispersions of e.g. long chain thiol treatment agents for silver and other metals is of long standing. The particular combination of surfactants specified in claim 1 is of particular value, because it can be used to produce optically clear solutions or dispersions that are storage-stable at ambient temperatures for a period of weeks or months.

None of the references cited by the Examiner discloses materials having this desirable combination of properties.

In particular, D1 discloses the use of a long chain aliphatic thiol together with a branched alkoxyated fatty alcohol and with an anionic surfactant. The resulting composition has to be used above the melting point of the thiol, and temperatures of 40-50°C are recommended.

D2 discloses detergent pastes based on alkyl disulphides. The particular combination of surfactants specified in claim 1 as amended is not disclosed or suggested, and the materials are in the form of a paste and not liquid. There is no reference to optical clarity, and optically clear compositions are not contemplated.

D3 is based on thioglycollates and other esterified thiols together with diatomaceous earth, sodium alkyl benzene sulphonate, water and phosphoric acid. Again the particular combination of surfactants specified in claim 1 as amended is neither disclosed nor suggested, and there is no hint of the use of optically clear materials.

The disclosure of D4 adds little to that of the previous references. Again the presently claimed combination of surfactants is not used, and the material is acidic.

D5 discloses compositions predominantly for treating copper and specifies that alkyl mercaptans can be used with non-ionic surfactants. The precise nature of the surfactants is not specified.

The Examiner has commented in paragraph 6 that there is no evidence that the selection of particular surfactants leads to particular effects. However, as disclosed at page 12 lines 16-22 onwards it has surprisingly been found that the present group of treatment agents may be dissolved in a non-ionic relatively hydrophobic surfactant either alone or mixed with glycerol or another polyol, and that the resulting mixture can be rendered water dispersible by mixing with the combination of an anionic and a zwitterionic surfactant. Surprisingly it was discovered that Simple Shower Gel which is a commercially available shower gel has the right combination of surfactants to dissolve or disperse thiols and produce optically clear stable solutions,

contn:-

and this property is believed to be attributable to the presence of coconut fatty acid diethanolamide (cocamide DEA). This material is used to produce stable solutions in the procedures of examples 4 and 5.

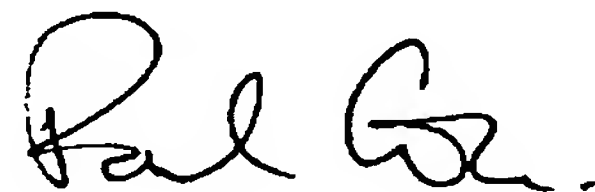
The Applicants await the first Written Opinion in the International Preliminary Examination of this application. With reference to item 7 v11 on the final page of the Written Opinion of the International Searching Authority, the Applicants wish to have an opportunity to acknowledge the background art in the description had to bring the description into agreement with the amended claims. Action along these lines will be taken if the Examiner can report favourably on the present claims in the first Written Opinion.

We await the results of the further Examination of this application.

Would you please return the attached copy of this letter to acknowledge safe receipt hereof.

Best wishes.

Yours faithfully

A handwritten signature in dark ink, appearing to read "Paul Cole", with a stylized flourish at the end.

Paul Cole/kep
Chartered Patent Agent
European Patent Attorney
Authorised Representative

Enc: Demand
Claims
Fee sheet

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ _____

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty.

For International Preliminary Examining Authority use only		
Identification of IPEA		Date of receipt of DEMAND
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION		Applicant's or agent's file reference MDX,017-PCT
International application No. PCT/GB2005/050043	International filing date (day/month/year) 24TH MARCH 2005	(Earliest) Priority date (day/month/year) 30TH MARCH 2004
Title of invention WATER-BASED METAL TREATMENT COMPOSITION		
Box No. II APPLICANT(S)		
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) MIDDLESEX SILVER CO. LIMITED Middlesex University Queensway Enfield Greater London EN3 4SA		Telephone No.
		Facsimile No.
		Teleprinter No.
		Applicant's registration No. with the Office
State (that is, country) of nationality: GB	State (that is, country) of residence: GB	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)		
State (that is, country) of nationality:	State (that is, country) of residence:	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)		
State (that is, country) of nationality:	State (that is, country) of residence:	
<input type="checkbox"/> Further applicants are indicated on a continuation sheet.		

Continuation of Box No. II APPLICANT(S)

*If none of the following sub-boxes is used, this sheet should not be included in the demand.*Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*JOHNS, Peter, Gamon
39 Richmond Drive
Watford
Hertfordshire
WD17 3BQ
GBState *(that is, country)* of nationality:
GBState *(that is, country)* of residence:
GBName and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*HARRISON, Clare, Elizabeth
23 Salmons Road
Edmonton
London
Greater London
N9 7JTState *(that is, country)* of nationality:
GBState *(that is, country)* of residence:
GBName and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*State *(that is, country)* of nationality:State *(that is, country)* of residence:Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*State *(that is, country)* of nationality:State *(that is, country)* of residence:

Further applicants are indicated on another continuation sheet.

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCEThe following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*COLE, Paul Gilbert
Lucas & Co.
135 Westhall Road
Worlingham
Surrey
CR6 9HJ, United Kingdom

Telephone No.

INT+44+1+883 626211

Facsimile No.

INT+44+1+883 622997

Teleprinter No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:***

1. The applicant wishes the international preliminary examination to start on the basis of:

☐ the international application as originally filedthe description ☐ as originally filed☐ as amended under Article 34the claims ☐ as originally filed☒ as amended under Article 19 (together with any accompanying statement)☐ as amended under Article 34the drawings ☐ as originally filed☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☒ Where the IPEA wishes to start the international preliminary examination at the same time as the international search in accordance with Rule 69.1(b), the applicant requests the IPEA to postpone the start of the international preliminary examination until the expiration of the applicable time limit under Rule 69.1(d).4. ☐ The applicant expressly wishes the international preliminary examination to start earlier than at the expiration of the applicable time limit under Rule 54bis.1(a).

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination:☐ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.**Box No. V ELECTION OF STATES**

The filing of this demand constitutes the election of all Contracting States which are designated and are bound by Chapter II of the PCT.

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | | |
|--|---|----------|--------|
| 1. translation of international application | : | _____ | sheets |
| 2. amendments under Article 34 | : | _____ | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | 4 | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | 2 | sheets |
| 5. letter | : | _____ | sheets |
| 6. other (<i>specify</i>) | : | _____ | sheets |

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- | received | not received |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |

The demand is also accompanied by the item(s) marked below:

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet | 5. <input type="checkbox"/> statement explaining lack of signature |
| 2. <input type="checkbox"/> original separate power of attorney | 6. <input type="checkbox"/> sequence listing in electronic form |
| 3. <input type="checkbox"/> original general power of attorney | 7. <input type="checkbox"/> tables in electronic form related to a sequence listing |
| 4. <input type="checkbox"/> copy of general power of attorney; reference number, if any: | 8. <input type="checkbox"/> other (<i>specify</i>): |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

Paul An.

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.
☐ The applicant has been informed accordingly.
4. ☐ The date of receipt of the demand is WITHIN the time limit of 19 months from the priority date as extended by virtue of Rule 80.5.
5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

6. ☐ The date of receipt of the demand is AFTER the expiration of the time limit under Rule 54bis.1(a) and item 7 or 8, below, does not apply.
7. ☐ The date of receipt of the demand is WITHIN the time limit under Rule 54bis.1(a) as extended by virtue of Rule 80.5.
8. ☐ Although the date of receipt of the demand is after the expiration of the time limit under Rule 54bis.1(a), the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

PCT

FEE CALCULATION SHEET

Annex to the Demand

<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">International application No. PCT/GB2005/050043</div> <div style="border: 1px solid black; padding: 2px;">Applicant's or agent's file reference MDX,017-PCT</div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;">Applicant MIDDLESEX SILVER CO. LIMITED</div>	<div style="border: 1px solid black; padding: 2px; text-align: center;">For International Preliminary Examining Authority use only</div> <div style="border: 1px solid black; padding: 2px; height: 150px; margin-top: 2px;">Date stamp of the IPEA</div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">CALCULATION OF PRESCRIBED FEES</div> <div style="display: flex; justify-content: space-between; align-items: flex-end;"><div style="width: 45%;">1. Preliminary examination fee</div><div style="width: 10%; text-align: center; border-bottom: 1px solid black;">1530.00</div><div style="width: 45%; text-align: center; border: 1px solid black; padding: 2px;">P</div></div> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 20px;"><div style="width: 45%;">2. Handling fee (<i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i>)</div><div style="width: 10%; text-align: center; border-bottom: 1px solid black;">129.00</div><div style="width: 45%; text-align: center; border: 1px solid black; padding: 2px;">H</div></div> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 20px;"><div style="width: 45%;">3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box</div><div style="width: 10%; text-align: center; border-bottom: 1px solid black;">1659.00</div><div style="width: 45%; text-align: center; border: 1px solid black; padding: 2px;">TOTAL</div></div>	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">MODE OF PAYMENT</div> <div style="display: flex; justify-content: space-between;"><div style="width: 45%;"><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input checked="" type="checkbox"/></div><div>authorization to charge deposit account with the IPEA (see below)</div></div><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div>cheque</div></div><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div>postal money order</div></div><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div>bank draft</div></div></div><div style="width: 45%;"><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div>cash</div></div><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div>revenue stamps</div></div><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div>coupons</div></div><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div>other (specify):</div></div></div></div>	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT <i>(This mode of payment may not be available at all IPEAs)</i></div> <div style="display: flex; justify-content: space-between;"><div style="width: 45%;"><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input checked="" type="checkbox"/></div><div>Authorization to charge the total fees indicated above.</div></div><div style="display: flex; align-items: flex-start; margin-bottom: 5px;"><div style="width: 20px; text-align: center;"><input type="checkbox"/></div><div><i>(This check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i> Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.</div></div></div><div style="width: 45%;"><div style="margin-bottom: 5px;">IPEA/ EP</div><div style="margin-bottom: 5px;">Deposit Account No.: 28050111</div><div style="margin-bottom: 5px;">Date: 2nd August 2005</div><div style="margin-bottom: 5px;">Name: Brian Lucas</div><div style="margin-bottom: 5px;">Signature: </div></div></div>	